



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/18/2014

Invoice # 35043

API#

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: cono 13c-14hz

County: Weld

State: Colorado

Sec: 11

Twp: 1n

Range: 68w

Consultant: toby

Rig Name & Number: major 42

Distance To Location: 30

Units On Location: 4030-3103/4024-3203

Time Requested: 130 pm

Time Arrived On Location: 100 pm

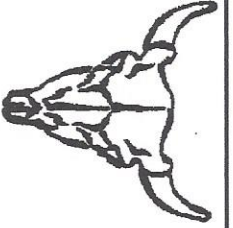
Time Left Location: 4:15pm

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft) : 1,178	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1196	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 16%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID :	BBL to Pit:
Shoe Joint Length (ft) : 40	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 8	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Calculated Results	Pressure of cement in annulus
Casing ID: 8.921	Casing Grade: J-55 only used
<b>Displacement:</b> 88.60 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	<b>Hydrostatic Pressure:</b> 869.01 PSI
<b>cuft of Shoe</b> 17.36 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Pressure of the fluids inside casing</b>
<b>cuft of Conductor</b> 0.00 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Displacement:</b> 490.68 psi
<b>cuft of Casing</b> 667.84 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Shoe Joint:</b> 29.51 psi
<b>Total Slurry Volume</b> 685.20 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Total</b> 520.19 psi
<b>bbls of Slurry</b> 122.03 bbls (Total Slurry Volume) X (.1781)	<b>Differential Pressure:</b> 348.82 psi
<b>Sacks Needed</b> 460 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Collapse PSI:</b> 2020.00 psi
<b>Mix Water</b> 81.90 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Burst PSI:</b> 3520.00 psi
	<b>Total Water Needed:</b> 220.50 bbls

X Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.



**Bison Oil Well Cementing  
Single Cement Surface Pipe**

Customer  
Well Name

Anadarko Petroleum Corporation  
cono 13c-14hz

INVOICE #  
LOCATION  
FOREMAN  
Date

35043  
Weld  
Kirk Kallhoff  
9/18/2014

Treatment Report Page 2

**DESCRIPTION OF JOB EVENTS**

Safety Meeting MIRU CIRCULATE Drop Plug 319 pm M & P	230pm 125pm 247pm	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
		0	319pm	10	0		0			0			0			
		10	322pm	40	10		10			10			10			
		20	324pm	40	20		20			20			20			
		30	326pm	130	30		30			30			30			
		40	328pm	210	40		40			40			40			
		50	330pm	280	50		50			50			50			
		60	332pm	360	60		60			60			60			
254 pm	460	70	334pm	410	70		70			70			70			
315 pm stop		80	336pm	410	80		80			80			80			
		90			90		90			90			90			
		100			100		100			100			100			
		110			110		110			110			110			
% Excess	16%	120			120		120			120			120			
Mixed bbls	81.9	130			130		130			130			130			
Total Sacks	460	140			140		140			140			140			
Water Returns	28	150			150		150			150			150			

Notes:

bumped plug at 86 bbls at 339pm at 1410 psi

122 bbls slurry

floats held

X Title

X \_\_\_\_\_ Title

X 9-18-14 Date

# M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

